What is claimed is:

1. An article manufactured from a composition comprising:

titanium; and

a molybdenum equivalent weight of about 7 to about 11 wt%, wherein the weight percents are based upon the total weight of the alloy composition, wherein the composition is superelastic and/or pseudoelastic.

2. The article of Claim 1, wherein the molybdenum equivalent weight is determined by the equation (1)

$$Mo_{eq.} = 1.00Mo + 0.28Nb + 0.22Ta + 0.67V + 1.43Co + 1.60Cr + 0.77Cu + 2.90Fe + 1.54Mn + 1.11Ni + 0.44W - 1.00Al \quad (1)$$

or the equation (2)

$$Mo_{eq.} = 1.00Mo + 0.28Nb + 0.22Ta + 0.67V + 1.43Co + 1.60Cr + 0.77Cu + 2.90Fe + 1.54Mn + 1.11Ni + 0.44W + 0.25(Sn + Zr + Hf) - 1.00Al \quad (2)$$

wherein Mo is molybdenum, Nb is niobium, Ta is tantalum, V is vanadium, Co is cobalt, Cr is chromium, Cu is copper, Fe is iron, Mn is manganese, Ni is nickel, W is tungsten, Al is aluminum, S is tin, Zr is zirconium and Hf is hafnium; wherein the aluminum can be substituted by carbon, boron, germanium and/or gallium; and wherein the respective chemical symbols represent the amounts of the respective elements in weight percent based on the total weight of the alloy composition.

3. The article of Claim 1, having a composition comprising:

about 8 to about 10 wt% molybdenum,

about 2.8 to about 6 wt% aluminum,

up to about 2 wt% chromium,

up to about 2 wt% vanadium,

up to about 4 wt% niobium, with the balance being titanium, wherein the weight percents are based on the total weight of the alloy composition.

4. The article of Claim 1, wherein the composition is cold worked and/or solution treated.

5. The article of Claim 1, wherein the composition has an elastic recovery of greater than or equal to about 75% of the applied change in length, when the applied change in length is 2% of the original length.

6. The article of Claim 1, wherein the composition has an elastic recovery of greater than or equal to about 50% of the applied change in length when the applied change in length is 4% of the original length. .

7. The article of Claim 1, wherein the composition after cold working has a reduction in the elastic modulus of greater than or equal to about 10% when compared with the elastic modulus of an equivalent heat treated composition.

8. The article of Claim 1, wherein the composition after cold working has a reduction in the elastic modulus of greater than or equal to about 20% when compared with the elastic modulus of an equivalent heat treated composition.

9. The article of Claim 1, wherein the composition after cold working has a reduction in the elastic modulus of greater than or equal to about 25% when compared with the elastic modulus of an equivalent heat treated composition.

10. The article of Claim 1, wherein the composition has a β phase or an α phase and a β phase.

11. The article of Claim 1, wherein the article is a medical device.

12. The article of Claim 1, wherein the medical device is a stent or a guide wire.

13. The article of Claim 1, wherein the medical device has a welded joint.

14. The article of Claim 1, wherein the medical device has a weld.

15. The article of Claim 1, wherein the article comprises an orthodontic arch wire, a dental implant, an orthopedic device or an eyewear frame.

16. The article of Claim 15, wherein the orthopedic device is used in bone.

17. The article of Claim 15, wherein the orthopedic device is used in the hip, knees, shoulder, elbows, or spine.

18. The article of Claim 1, wherein the article comprises at least a portion of a golf club.

19. The article of Claim 18, wherein the article is welded or brazed to the golf club.

20. The article of Claim 1, wherein the article comprises a golf club head.

21. The article of Claim 1, wherein the article comprises an insert for a golf club head.

22. The article of Claim 21, wherein the insert is welded, brazed or mechanically inserted onto the golf club head.

23. The article of Claim 22, wherein the insert is held in the golf club head by a tight toleranced fit.

24. The article of Claim 1, wherein the article has a welded joint.

25. The article of Claim 1, wherein the article has a brazed joint.

26. The article of Claim 1, wherein the article further comprises a portion having linear elastic properties.

27. The article of Claim 1, wherein the article further comprises a polymeric coating.

28. An article manufactured from a composition comprising:

about 8.9 wt% molybdenum, about 3.03 wt% aluminum, about 1.95 wt% vanadium, about 3.86 wt% niobium, with the balance being titanium.

29. The article of Claim 28, wherein the article is a medical device.

30. The article of Claim 28, wherein the medical device is a stent, a catheter introducer, a dental implant, a guide wire, an orthodontic arch wire, an orthopedic device used in bones or tissue, or an eyewear frame.

31. The article of Claim 28, wherein the article comprises at least a portion of a golf club.

32. The article of Claim 28, wherein the article comprises a golf club head.

33. The article of Claim 28, wherein the article comprises an insert for a golf club head and further wherein the insert is welded or brazed to the golf club head.

34. The article of Claim 28, wherein the article has a welded joint.

35. The article of Claim 28, wherein the article has a soldered joint.

36. The article of Claim 28, wherein the article further comprises a portion having linear elastic properties.

37. The article of Claim 28, wherein the article further comprises a portion having pseudoelastic or superelastic properties.

38. The article of Claim 28, wherein the article further comprises a polymeric coating.

39. An article manufactured from a composition comprising:

about 9.34 wt% molybdenum, about 3.01 wt% aluminum, about 1.95 wt% vanadium, about 3.79 wt% niobium, with the balance being titanium.

40. The article of Claim 39, wherein the medical device is a stent, a guide wire, a dental implant, an orthodontic arch wire, an orthopedic device for bone and/or tissue, or an eyewear frame.

41. An article manufactured by a method comprising:

forming a shape from a composition comprising titanium; and

a molybdenum equivalent weight of about 7 to about 11 wt%, wherein the weight percents are based upon the total weight of the alloy composition, wherein the composition is superelastic and/or pseudoelastic;

cold working the shape; and

solution treating the shape.

42. The method of Claim 41, wherein the solution treating is conducted at a temperature below the β transus temperature for the composition.

43. The method of Claim 41, wherein the solution treating is conducted at a temperature above the β transus temperature for the composition.

44. The method of Claim 43, wherein the shape is further cooled in air or in an inert gas.

45. The method of Claim 41, wherein the shape is further heat aged at a temperature of about 350 to about 550°C.

46. The method of Claim 41, wherein the heat ageing is conducted for a time period of 10 seconds to about 8 hours.

47. An article manufactured by a method comprising:

cold working a wire, wherein the wire has a composition comprising titanium; and a molybdenum equivalent weight of about 7 to about 11 wt%, wherein the weight percents are based upon the total weight of the alloy composition; and wherein the molybdenum equivalent weights are determined by the equation (1)

$$Mo_{eq.} = 1.00Mo + 0.28Nb + 0.22Ta + 0.67V + 1.43Co + 1.60Cr + 0.77Cu + 2.90Fe + 1.54Mn + 1.11Ni + 0.44W - 1.00Al \quad (1)$$

or the equation (2)

$$Mo_{eq.} = 1.00Mo + 0.28Nb + 0.22Ta + 0.67V + 1.43Co + 1.60Cr + 0.77Cu + 2.90Fe + 1.54Mn + 1.11Ni + 0.44W + 0.25(Sn + Zr + Hf) - 1.00Al \quad (2)$$

wherein Mo is molybdenum, Nb is niobium, Ta is tantalum, V is vanadium, Co is cobalt, Cr is chromium, Cu is copper, Fe is iron, Mn is manganese, Ni is nickel, W is tungsten, Al is aluminum, Sn is tin, Zr is zirconium and Hf is hafnium; wherein the aluminum can be substituted by carbon, boron, germanium and/or gallium; and wherein the respective chemical symbols represent the amounts of the respective elements in weight percent based on the total weight of the alloy composition.

48. The article of Claim 47, wherein the wire diameter is about 0.1 to about 10 millimeters.

49. The article of Claim 47, wherein the article has a martensitic structure.

50. The article of Claim 47, wherein the article has an elastic recovery of greater than or equal to about 75% of the applied change in length when the applied change in length is 2% of the original length.

51. The article of Claim 47, wherein the article has an elastic recovery of greater than or equal to about 50% of the applied change in length when the applied change in length is 4% of the original length.

52. The article of Claim 47, wherein the article is a medical device.

53. The article of Claim 52, wherein the medical device is a stent, a dental implant, a guide wire, an orthodontic arch wire, an orthopedic device used in bone and/or tissue, or an eyewear frame.

54. The article of Claim 47, wherein the article is used as a file or a drill in dental applications.

55. The article of Claim 47, wherein the article comprises an insert for a golf club head and further wherein the insert is welded or brazed to the golf club head.